What is claimed is:

[Claim 1] 1. A capacitor structure comprising:

a conductive substrate;

a plurality of conductive fins extending above said substrate;

a plurality of trenches extending into said substrate, wherein said trenches are positioned between locations where said fins extend above said substrate;

an insulator in said trenches;

a conductive top plate covering said fins and filling said trenches; and

a bottom plate contact connected to said substrate.

[Claim 2] 2. The structure in claim 1, further comprising an insulator layer between said substrate and said fins, wherein said substrate comprises a bottom plate of said capacitor structure, and said fins are electrically isolated from said substrate by said insulator layer.

[Claim 3] 3. The structure in claim 1, further comprising a second insulator covering said fins, wherein said bottom plate contact is also connected to said fins, and said fins and said substrate comprise a bottom plate of said capacitor structure.

[Claim 4] 4. The structure in claim 3, further comprising:

an insulator layer between said substrate and said fins; and

conductive spacers on said fins electrically connecting said fins to said substrate.

[Claim 5] 5. The structure in claim 3, wherein said insulator comprises a first insulator lining said trenches and a second insulator covering said fins.

[Claim 6] 6. The structure in claim 1, further comprising an insulating mask above the each of said fins.

[Claim 7] 7. The structure in claim 1, wherein said bottom plate contact is insulated from said top plate.

[Claim 8] 8. A capacitor structure comprising:

a conductive substrate;

a plurality of conductive fins extending above said substrate;

a plurality of trenches extending into said substrate, wherein said trenches are positioned between locations where said fins extend above said substrate;

an insulator in said trenches and covering said fins;

a conductive top plate covering said fins and filling said trenches; and

a bottom plate contact connected to said fins and said substrate.

[Claim 9] 9. The structure in claim 8, wherein said fins and said substrate comprise a bottom plate of said capacitor structure.

[Claim 10] 10. The structure in claim 8, further comprising an insulator layer between said substrate and said fins.

[Claim 11] 11. The structure in claim 10, further comprising conductive spacers on said fins electrically connecting said fins to said substrate.

[Claim 12] 12. The structure in claim 8, further comprising an insulating mask above the each of said fins.

[Claim 13] 13. The structure in claim 8, wherein said insulator comprises a first insulator lining said trenches and a second insulator covering said fins.

[Claim 14] 14. The structure in claim 8, wherein said bottom plate contact is insulated from said top plate.

[Claim 15] 15. A method of forming a capacitor structure comprising:

patterning a plurality of conductive fins above a conductive substrate;

forming a plurality of trenches extending into said substrate between locations where said fins extend above said substrate;

forming an insulator in said trenches and on said fins;

forming a conductive top plate on said fins and in said trenches; and

forming a bottom plate contact connected to said fins and said substrate.

[Claim 16] 16. The method in claim 15, wherein said process of forming said bottom plate contact electrically connects said fins and said substrate to form a bottom plate of said capacitor structure.

[Claim 17] 17. The method in claim 15, further comprising, before patterning said conductive fins, forming an insulator layer above said substrate, wherein said fins are formed on said insulator layer.

[Claim 18] 18. The method in claim 17, further comprising forming conductive spacers on said fins electrically connecting said fins to said substrate.

[Claim 19] 19. The method in claim 15, wherein said process of patterning said conductive fins comprises:

forming a conductor layer above said substrate;

patterning an insulating mask on said conductive layer; and
patterning said conductive fins through said insulating mask.

[Claim 20] 20. The method in claim 15, wherein said process of forming said insulator forms a first insulator lining said trenches and a second insulator covering said fins.

[Claim 21] 21. The method in claim 15, wherein said process of forming said bottom plate contact electrically insulates said bottom plate from said top plate.

[Claim 22] 22. A method of forming a capacitor structure comprising:
patterning a plurality of conductive fins above a conductive substrate;
forming a plurality of trenches extending into said substrate between locations where said fins extend above said substrate;
forming an insulator in said trenches and on said fins;
forming a conductive top plate on said fins and in said trenches; and
forming a bottom plate contact connected to said substrate.

[Claim 23] 23. The method in claim 22, wherein said process of forming said bottom plate contact electrically connects said fins and said substrate to form a bottom plate of said capacitor structure.

[Claim 24] 24. The method in claim 22, further comprising, before patterning said conductive fins, forming an insulator layer above said substrate, wherein said fins are formed on said insulator layer.

[Claim 25] 25. The method in claim 24, wherein said substrate comprises a bottom plate of said capacitor structure, and said fins are electrically isolated from said substrate by said insulator layer.

[Claim 26] 26. The method in claim 24, further comprising forming conductive spacers on said fins electrically connecting said fins to said substrate.

[Claim 27] 27. The method in claim 22, wherein said process of patterning said conductive fins comprises:

forming a conductor layer above said substrate;
patterning an insulating mask on said conductive layer; and
patterning said conductive fins through said insulating mask.

[Claim 28] 28. The method in claim 22, wherein said process of forming said insulator forms a first insulator lining said trenches and a second insulator covering said fins.

[Claim 29] 29. The method in claim 22, wherein said process of forming said bottom plate contact electrically insulates said bottom plate from said top plate.